

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 7-12, 14, and 15 are pending in the present application, Claim 7 having been amended, and Claim 13 having been canceled without prejudice or disclaimer. Applicants respectfully submit that no new matter is added.

In the outstanding Office Action, Claim 12 was objected to; Claim 15 was rejected under 35 U.S.C. §112, second paragraph; Claims 7, 9, 11, and 13 were rejected under 35 U.S.C. §102(b) as anticipated by Kazutaka (Japanese Patent Publication No. JP 03-030239); Claim 12 was rejected under 35 U.S.C. §103(a) as unpatentable over Kazutaka in view of Fay (U.S. Patent No. 2,617,959); Claim 14 was allowed; and Claims 8 and 10 were indicated as including allowable subject matter.¹

Applicants thank the Examiner for the allowance of Claim 14 and in the indication of allowable subject matter.

Applicants thank the Examiners for the courtesy of an interview extended to Applicants' representative on May 22, 2007. During the interview, differences between the present invention and the applied art, and the rejections noted in the outstanding Office Action were discussed. No agreement was reached pending the Examiner's further review when a response is filed. Arguments presented during the interview are reiterated below.

With respect to the objection to Claim 12 and the rejection of Claim 15, Applicants note that the Advisory Action mailed March 8, 2007 indicated that the amendment to Claims 12 and 15 made in the Amendment filed January 4, 2007 overcame this ground of objection and rejection, respectively.

¹ The Advisory Action mailed March 8, 2007 indicated that Claim 15 is allowed.

With respect to the rejection of Claim 13, the subject matter of which is now included in amended Claim 7, as anticipated by Kazutaka, Applicants respectfully traverse this ground of rejection. Amended Claim 7 recites, *inter alia*, “wherein any pair of two points on adjacent first bars, the pair of two points defined by crossing points of a line perpendicular to the first bars, are equidistant.”

Initially, support for the above-noted subject matter is found in the specification at page 5, lines 3-10. Furthermore, as would be understood by a person of ordinary skill in the art, the mathematical definition of parallel curves is as follows:

Two curves are parallel if a perpendicular plane to one curve is also perpendicular to the other curve.

In light of this mathematical definition, the distance between two points of a same plane, a point on each curve, remains constant in different perpendicular planes. In the context of two circle pseudo-involute curves, two circle pseudo-involute curves are parallel to each other if they are relative to the same circle.

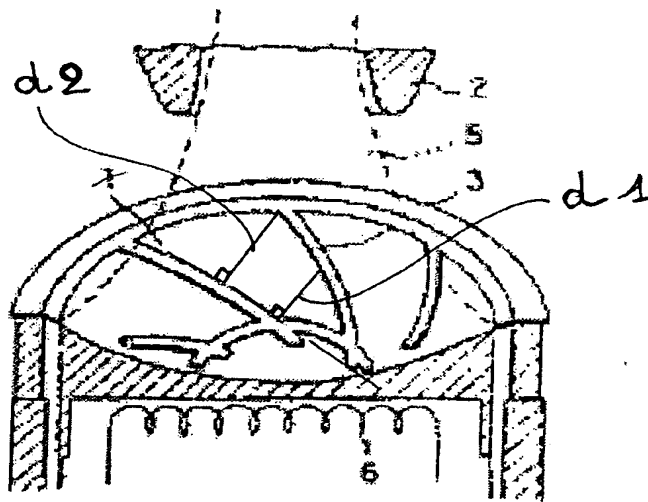
To assist in the understanding of the claimed invention, a marked-up copy of Applicants’ Fig. 8 is attached. The attached figure is a larger scale of original Fig. 8 of the present application. The attached figure includes examples of distances “d” between bars 41. It is noted that this figure is hand made, and that the measurements of distance d may not be exactly constant. However, based on the specification and the above-noted definition of parallel curves, the distances d between two consecutive bars 41 of one ring remain constant. Advantageously, the distance d remains constant in consecutive bars in rings 43, 44, and 46. The bars 41 follow pseudo-involute curves, so lines (where the distance d is measured) are perpendicular to the two curves.

Furthermore, the Office is referred to Applicants’ Fig. 7, which shows an example of a circle pseudo-involute in three-dimensions. Based on the above-noted definition of parallel curves, it should be easy to view Fig. 7 as showing two parallel curves in three-dimensions.

Furthermore, Applicants note that in Fig. 8 of the present application, the shape of the space between the bars 41 (where the distance d is drawn) has one end that appears to be longer than the other end. However, these are not the distances that are being referred to. On the contrary, Applicants are referring to the distances drawn on the marked-up version of Fig. 8 that satisfy the above-noted definition of parallel curves. Moreover, Applicants note that the drawings of patent applications are not to scale, and the drawings should be viewed in conjunction with the description of the specification and the knowledge of a person of ordinary skill in the art.

Turning now to the applied reference, Kazutaka describes a grid-type electron gun, wherein the grids 3 and 4 form spirals.² However, Kazutaka fails to teach or suggest “wherein any pair of two points on adjacent first bars, the pair of two points defined by crossing points of a line perpendicular to the first bars, are equidistant.”

In Kazutaka, the bars of the grids 3 and 4 are not extended as circle pseudo-involutes. If Kazutaka’s bars were arranged as circle pseudo-involutes, the distances between two adjacent lines would be the same. But this is not the case, since distances $d1$ and $d2$ are not the same, as shown in Kazutaka’s marked-up Figure 1 below.



² See Kazutaka in the Abstract.

As explained in the attached marked-up version of Applicants Fig. 8, any pair of two points on adjacent first bars, wherein the pair of two points is defined by crossing points of a line perpendicular to the first bars, are equidistant. Bars arranged in spirals, as taught by Kazutaka, are not bars substantially arranged as circle pseudo-involutes and do not disclose or suggest the above-noted element of amended Claim 7.

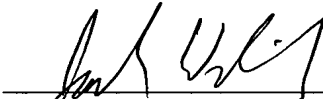
Therefore, the applied reference Kazutaka fails to teach or suggest every feature recited in amended Claim 7.

In view of the above-noted discussion, Applicants respectfully submits that Claim 7 (and any claims dependent thereon) patentably distinguish over Kazutaka.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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